

SCIENCE & GOVERNMENT REPORT

13th Year of Publication

The Independent Bulletin of Science Policy

Volume XIII, Number 15

P.O. Box 6226A, Washington, D.C. 20015

September 15, 1983

Deep Freeze Settles on US-USSR Science Ties

The following, edited by SGR for brevity and clarity, is from an interview we conducted September 9 with George A. Keyworth II, Science Adviser to President Reagan:

SGR. There was some talk about a possible revival of Soviet-American collaborative efforts before the airplane incident. Is anything possible now in science and technology?

Keyworth. Let me go back to pre-airplane. I had very practical reasons for questioning many of the US-USSR scientific cooperations. I think it's very difficult to keep up meaningful cooperation in an environment where you keep going up and down every two or three years because of political episodes—Afghanistan, for exam-

Universities Stonewall Curbs on Indirect Costs—Page 5

ple. You just can't do science on that basis. That's the non-political aspect of the problem. Before the plane was shot down, we were just beginning to see a little bit better communication between us and the Soviets in general. But there was no impact on the Administration's attitude toward science and technology cooperation.

SGR. Has that been set back even further?

Keyworth. Since the airplane? I don't think I would

Academy Reviews Soviet Link

Shortly before the South Korean airplane catastrophe, the National Academy of Sciences was cautiously expressing interest in a renewal of its scientific ties with the Soviet Union. But last week, NAS President Frank Press told SGR that "obviously, we can't be oblivious of what happened. Everyone is repelled by it."

Press said that he was consulting with officials and members of the Academy "to see what steps we'll take."

One of the most accessible steps would be a continuation of the Academy's 1980 freeze on scientific exchanges with the Soviets—something that the Academy seemed to be moving away from just one month prior to the destruction of the airplane.

(Continued on page 2)

too enthusiastically support any scientific cooperation with a rogue nation. I personally would not encourage any increased activity. It was not a surprise to me. It was not the first time that we've seen rogue nation behavior, and I think we'll see it again. And I think we'll see it again, and again, and again.

SGR. Do you think it would be desirable to reduce what little bit of cooperation still survives?

Keyworth. I think it's always wise to take a hard look at what is genuinely of significant benefit to the US. I guess I don't share as much enthusiasm as many people do for the past history of US-USSR science and technology cooperation.

SGR. Some people have expressed concern that a generation of young American scientists is developing with little or no contact with Soviet science.

Keyworth. There's no question that it's important for
(Continued on page 3)

In Brief

The NSF-sponsored study that the Reagan Administration set up last year to hush demands for more federal money for science and math education has produced a blueprint that calls for a lot more federal money—\$1.5 billion as the first-year downpayment on an allegedly declining five-year plan. Co-chaired by William T. Coleman Jr., a civil-rights activist and big-league Washington corporate lawyer, the study arrives at a time when the Administration is politically vulnerable for pennypinching on education.

In a shrewd bid to help extract education from OMB's frugal grasp, the study calls for creation of a presidentially appointed National Education Council "to report regularly to the American people on the standards and achievements of their schools." (Educating Americans for the 21st Century, free, from National Science Board Commission on Precollege Education in Science, Mathematics, and Technology, 1800 G St. Nw., Washington, DC 20550; tel. 202/357-7700.)

With three of the original four assistant directors of the White House Science Office already gone or going, the fourth is seriously thinking about departure. He's John M. Marcum, the chief for Energy and Natural Resources, who's considering a post at the Paris-based Organization for Economic Cooperation and Development.

...NAS Was Warming on Cooperation Renewal

(Continued from page 1)

On August 2, in testimony to the House Foreign Affairs Subcommittee on International Security and Scientific Affairs, Press indicated that the NAS and its Soviet counterpart had been in communication about a revival of contacts, and that the prospects were not negative.

That August statement, reflecting views shared by other influential members of the scientific community, conflict sharply with many opinions that Presidential Science Adviser Keyworth and other Administration officials have expressed toward Soviet science. Amidst the revulsion and shock that have resulted from the catastrophe, it might be useful to consider what was being said about Soviet-American scientific cooperation at a calmer moment. Following are excerpts from Press's testimony:

In a number of fields, Soviet science is at the forefront of knowledge. This is an important, indeed, a compelling reason to maintain scientific contact with Soviet scientists. It is clearly important to understand the level of effort and progress of Soviet research in these areas.

Stress on Human Rights

Our Academy and, I believe, the Soviet Academy are clear with respect to the realities on each side relevant to future scientific cooperation. We have made known to them the strong feeling of our membership that any agreement must be related to Soviet action in the human rights area. We also have conveyed to them our position that the basis for future cooperation must involve the participation of excellent scientists from both sides. Joint efforts should be made to identify particular fields and scientists in a broad range of disciplines inquiring about their views on the value of cooperation with Soviet colleagues and the fields of science they believe to be of greatest importance for that cooperation. Preliminary responses suggest that interest in cooperation is relatively high, particularly in the so-called field sciences and in some

areas of physics and biochemistry.

Any new formal agreement with the Soviet Academy must assure (1) approximate reciprocity on both sides, (2) selection of topics of significant interest to the two scientific communities, (3) inclusion of fields of science in which both countries are leaders, (4) establishment of the principle that each Academy can invite scientists from the other country and that they will be included in the exchange program, and (5) clear understanding that all participants are mutually agreed upon in advance. I suggest that only in this way can we recapture the quality, enthusiasm and excitement that characterized the early years of interacademy cooperation.

"Contacts Are Withering"

Our scientific contacts with the Soviets are withering. The causes are manifold, including the concern of our own government about technology transfer; a further desire by government to restrict cultural, educational, and scientific contacts as a means of punishing the Soviets for their international actions in Afghanistan and Poland; the continuing secretive nature of Soviet society and the bureaucratic impediments imposed by the Soviet government; the politicization of the Soviet process for selection of exchange scientists; and finally, the abhorrence on our part of the abrogation of human rights of Soviet scientists. Each of these impediments can alone seriously endanger the sensitive thread of communication that exists today between our scientific communities.

The current reduced level of the interacademy program represents an unsatisfactory state of affairs in the view of many members of the National Academy of Sciences. We shall continue to explore the bases for a new agreement consistent with the principles that scientific cooperation should take place on the basis of participants selected by invitation or by prior negotiation, and insistence that any agreement be modulated by Soviet progress in the human rights area.

©Science & Government Report, Inc., 1983

ISSN 0048-9581

Editor and Publisher
Daniel S. Greenberg

Associate Publisher
Wanda J. Reif

Circulation Manager
Margaret E. Lee

Contributing Correspondents

Christopher Joyce, Kim A. McDonald (Washington); Francois Segurier (Paris); Ros Herman (London)

Independently published by Science & Government Report, Inc., twice monthly, except in January, July & August. Annual subscription: Institutions, \$132.50 (two years, \$235.00). Information about bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. N.W., Washington, DC 20015. Tel. (202) 244-4135. Second-class postage at Washington, DC. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. Reproduction without permission is prohibited. SGR is available on Xerox University Microfilms. Claims for missing back issues will be filled without charge if made within six months of publication date.

...US Far Ahead in Breakthrough Science

(Continued from page 1)

Americans to understand what the Soviet system is. That's one aspect of the problem. Look, nobody likes the idea of a nation isolated. On the other hand, how do you respond to a nation that is barbarous, an absolute rogue nation? We can't separate the science and technology agreements from foreign policy.

SGR. Can we safely ignore a research enterprise of that size?

Keyworth. They have some good things in lots of areas that we can profit from. And it's worth something to us. We can attach a dollar value to that. But I think the scientific community does not correlate the full spectrum of considerations—foreign policy, the implications for consistency. I don't think it's just a matter of whether we miss something. Of course, there's a lot of science being done there. On the other hand, the amount of science being done in the Soviet Union is very small compared to what is being done in our own country. I'm talking about the science that produces breakthroughs. There are some areas where they are stronger. But, in general, we are much stronger than the Soviets in most areas, in broad disciplinary areas—in high-energy physics, solid-state physics, molecular biology, we have a substantial, entrenched lead. Of course, it would be better if we had friendly relations. But that's not the way it is. They shot down an airliner with women, children, and they did it obviously with no conscience. I call them rogues. As a nation, I call them uncivilized.

SGR. Evil empire?

Keyworth. It's an evil empire.

SGR. Do you favor pursuing arms-control agreements?

Keyworth. Yes. Until the probability of success reaches absolutely zero, it is absolutely essential to keep those links open. We're not doing that for cooperation or for convenience. We're doing that for long-term survival.

New High-Energy Accelerator

SGR. Would you favor going international for the next high-energy accelerator?

Keyworth. We don't know enough at present about costs and technology to make a national commitment to a new accelerator. But [assuming it's to be built] I think international cooperation is important, it's inevitable.

SGR. Are you thinking of an international consortium?

Keyworth. I didn't say consortium. I think some international cooperation would be highly desirable, and I'd even say ultimately inevitable. I don't know whether it would take place in building the accelerator. There are other ways. The detectors are liable to cost hundreds of

Keyworth Visits Asia, Israel

White House Science Adviser George A. Keyworth II is scheduled to leave Washington September 16 for a one-week trip that will include official visits to Indonesia and Thailand, a layover in Tokyo, and an informal overnight stop in Israel, which the otherwise well-traveled Keyworth has not previously visited. The Pacific visits are in connection with President Reagan's forthcoming Asian trip.

millions of dollars; some speculate a billion. It may well be that you might have international sharing on accelerator development versus detector development. I don't know.

SGR. Are you thinking of a level of cooperation beyond the sort of international traffic of researchers at many of the world's big machines?

Keyworth. Far beyond that. I mean literally cooperation in building the accelerator, *a la* CERN. We're right up against the limits of what's a reasonable investment for the US economy. I don't think it's a question of whether we can afford to build it or not. It has become so terribly expensive that we need to look very carefully at bringing in some cost sharing.

SGR. Are we looking?

Keyworth. There was discussion at the Versailles Summit, and science and technology cooperation was agreed to at the Williamsburg Summit. It's constrained now because Europe has just made a big commitment [to further development of CERN]. We will certainly be talking to the Japanese seriously.

Budget Increases

SGR. Do you expect another big increase for R&D next year?

Keyworth. I think we can look forward to selective substantial increases.

SGR. In what areas?

Keyworth. One of them will be education, from pre-college to engineering. We'll also see some traditional fields going up, but they'll be approached in new ways. Material sciences is one of them.

SGR. Is NCAM coming back? [National Center for Advanced Materials, a pet Keyworth project that was derailed, if only temporarily, by Congress—SGR Vol. XIII, No. 10.]

Keyworth. NCAM survived. It's stretched in schedule. I'll say, too, that the attention it received [from a special Department of Energy review in response to Congressional reservations] has provided a

(Continued on page 4)

...Congressional Pressures on Biomedical Goals

(Continued from page 3)

lot of useful thoughts. I'm not worried about the delay. I think it will be stronger for it. I was happy to hear the other day that a new research center in Michigan that was initiated by industry came right out of the NCAM model. We're looking, too, at other ways to merge multiple disciplines into the pursuit of materials research. People in biotechnology, engineers, different types of chemists, solid-state scientists, and so on.

NIH Budget

SGR. The life sciences say they haven't shared in the new prosperity.

Keyworth. The life sciences have been more troubling to me in many ways than most other smaller areas. I'm more persuaded than ever that the biological sciences represent probably the richest single discipline of science that there is today. Traditionally, we've always supported the biological sciences primarily for the purpose of better health care. Suddenly, we're in an era where the biological sciences are growing far beyond biomedical applications. And I think we are having great difficulty in this country distinguishing the pursuit of biological research for broad applications from the pursuit of improved medical care. In that sense, the issue that we're really trying to grapple with is how to provide emphasis on really exciting and promising areas of science at NIH—immunology, virology, neurophysiology, molecular biology—with probabilities of breakthroughs and applications. The problem is trying to separate that from the inevitable Congressional thrusts for near-term solutions for particular diseases. This year, there's the big three: AIDS, Alzheimer's, and arthritis. I think it is extremely important to understand AIDS—there's a national consensus on that. There are many other diseases that require urgent attention. Cancer, of course. But I really believe we'll achieve cures for cancer in the not very distant future through breakthroughs in virology, for example, through new techniques in molecular biology. And yet, the Congress tends to see the way you cure a disease is to set up a program or institute with that as a name. You've got to understand that there are disciplines whose progress is along a different line than having as a sole goal curing a disease. I don't care how much money you put into AIDS or cancer, you won't achieve those ends without major breakthroughs in disciplines.

SGR. The biosciences say they want more money for both applied and basic research.

Keyworth. Sure, people want money for everything. We're so used to the policy that if you really must make a major thrust in, let's say, neurophysiology, you can also satisfy everything else at the same time because

we're a rich nation. There was this feeling that if you get 10 bucks wisely invested out of each hundred, that's not a bad use of the federal dollar. Well, we're not living in those times anymore. Slowly, the scientific community, slowly, slowly—slower than most of the nation—is beginning to learn that.

Indirect Costs

SGR. NIH's clients are stirred up about indirect costs. Do you see a solution to the problem?

Keyworth. I've spent a lot of hours with my [White House] Science Council on this during the last few months. Fact one is that we're extremely worried about our universities, and a lot of the steps we've taken in basic-research policy reflects that concern. Fact two, NIH, in my opinion, took arbitrary action [in response to limited budget growth]. I don't believe uniformly distributed increases are appropriate in science, and I don't believe uniform cuts are appropriate. I don't think X percent off the top is any way to address the fact that the indirect component has been growing fast. I think that we've got to balance the desire for improved university research and teaching and general environment, and at the same time we've got to control an unacceptable rate of growth. I think the problem can be addressed without arbitrarily and summarily killing or hurting something in the process. I do worry about this ever-increasing friction between university management

(Continued on page 5)

Hearings on NIH Organization

As part of a study that it has been hired to make of the organization and structure of the National Institutes of Health, the Institute of Medicine will hold public hearings on September 26 and 27 at the National Academy of Sciences, 2101 Constitution Ave. Nw., in Washington.

The study was inspired by Congressional efforts to add a separate Arthritis Institute to the NIH—a move that still may succeed in the current session. As a delaying tactic, the NIH leadership said it was time for an in-depth examination of the organization, and suggested that in the meantime Congress delay any changes. That threadbare ploy failed to delay the arthritis lobby and its Congressional friends, but the study is proceeding anyway.

Topics to be covered include the effects of past organizational changes, the performance of the present structure at NIH, and alternative ways of organizing the research system.

Sessions start at 9 am. For further information about participation in the meeting: Ms. Cindy Howe, 202/334-2268.

Universities Dig In Against Overhead Cuts

Confident of strong support on Capitol Hill, the leaders of biomedical research have responded with contempt to Administration efforts to reduce the runaway growth of research funds that are being siphoned off for "indirect," or overhead, costs.

That political confidence is the basis of a stonewalling statement, issued September 6, that was derived from a July meeting in Washington of representatives of 18 universities and academic associations.

The key figures in the proceedings are identified with the fiscal concerns of the institution, rather than the grant-financed investigator—namely, Donald Kennedy, President of Stanford University, and Lattie Coor, President of the University of Vermont; they serve as co-chairmen of the Joint Committee on Health Policy of the Association of American Universities, the American Council on Education, and the National Association of State Universities and Land Grant Colleges.

The 2-page statement does include a penultimate paragraph conceding "that indirect costs as a category are particularly important targets for economy in our institutions." But apart from that minor nod to serious allegations of front-office pillaging of research funds, the statement is notable for its unyielding insistence on the status quo. In no way is it responsive to the various proposals for economizing on overhead that have been suggested by NIH Director James B. Wyngaarden, who is the first senior federal research administrator foolishly enough to address academe's scandalous ripoff of scarce research funds (SGR Vol. XIII, Nos. 2, 6).

Protesting the biomedical sciences' second-class status among the Reagan Administration's research budgeteers, the Kennedy-Coor statement argues that "A healthy biomedical research venture supported by

In addition to Presidents Kennedy and Coor, the following are listed as participants and organizational representatives at the July meeting on NIH:

Bernadine Buckley, Professor of Medicine, Johns Hopkins Hospital; President, American Federation for Clinical Research
David Cohen, Chairman, Department of Neurology, SUNY, Stonybrook; Past President, Society for Neuroscience
William Danforth, Chancellor, Washington University; Chairman, Association of American Universities
Christopher Fordham, Chancellor, University of North Carolina
Milton Goldberg, Executive Director, Council on Governmental Relations
Harold Halvorson, Director, Rosenstiel Basic Medical Sciences Research Center; Chairman, Public and Scientific Affairs Board, American Society for Microbiology
John R. Hogness, President, Association of Academic Health Centers
Thomas Kennedy, Director, Planning and Policy Development, Association of American Medical Colleges
Robert Krauss, Executive Director, Federation of American Societies for Experimental Biology
William E. Luginbuhl, Dean, University of Vermont; Association of American Medical Colleges
Robert E. Rosenzweig, President, Association of American Universities
Harold Shapiro, President, University of Michigan; Chairman, AAU Research Management Committee
Alfred Sumberg, Director, Government Relations, American Association of University Professors
Bob Watkins, Director, Public Affairs, American Society for Microbiology
Frederico Welch, Executive Director, Worcester Foundation for Experimental Biology; Association of Independent Research Institutes
Virginia Weldon, Deputy Vice Chancellor, Medical Affairs, Washington University School of Medicine

full funding is a vital national objective—parallel with
(Continued on page 6)

KEYWORD *(Continued from page 4)*

and faculty. We're worried about the academic system because we so badly need its products right now.

SGR. Do you see a solution that doesn't call for paying less in indirect costs?

Keyworth. The desire is not to reduce the overhead right now. The objective is to try to reduce the rate of growth in the future from what we can extrapolate from the last 10 years. That's what we're afraid of.

SGR. Are the present levels satisfactory?

Keyworth. I don't think they're equitable, I'm not even sure they're justifiable. But if there's a massive cut right now in federal support for university overhead, where is it going to come from? I think the real objective is to try to control the rate of growth. I'd be perfectly willing to start the issue from right now, and by no means try to push it backwards. And I'd like to try to

understand it better.

SGR. It's been pointed out that a huge chunk of NIH money appropriated for research never gets to the laboratory.

Keyworth. It's probably not the right way to do things, but the fact is that it's where we are today. And the question is how to take a sort of poor system and make the most out of it.

SGR. It's been suggested by university representatives that your office should take a look at the problem.

Keyworth. That's been suggested before. What we're trying to assess right now is whether we can alter A-21 [Office of Management and Budget regulations governing indirect cost payments] sufficiently to rationalize the budget process while meeting the accountability requirements. We've learned a lot more in the last few years, and we might very well be able to.

...Resist Cuts in Grants or Indirect Costs

(Continued from page 5)

our need for strength in the physical sciences."

Then, going into a numbers game that can support almost any preconceived position concerning adequacy of research funding, the statement adds that "There has been slowed growth in support for biomedical research since 1968 with real shrinkage over the last 5 years."

(Kennedy-Coor might have mentioned, but for good forensic purposes chose not to, that the number of NIH grants rose from 3625 in 1972 to 5027 last year, while grant support in that decade went from \$194 million to \$564 million. Meanwhile, average indirect-cost rates rose from 21.6 to 29 percent, and at present, as Wyngaarden has reminded his biomedical colleagues, "for each dollar of direct costs, 43 cents go to indirect.")

The statement rejecting curbs on indirect costs goes on to claim that support of biomedical science is suffering from "a substantial accumulated liability." And it notes that the hardworking lobby known as the Coalition for Biomedical Research Funding has recommended that the Reagan budget for NIH in fiscal 1984 be raised by \$414 million to achieve what Kennedy-Coor called a "balanced program"—which would include "full direct and indirect costs." Though they say that "Full funding of a sound biomedical research program" would require "substantially" more than the 10 percent increase that the \$414 million represents, they say that they and their colleagues at the July meeting will settle for the Coalition's figure.

But, returning to efforts to restrict their access to that huge and lightly guarded bundle of money, Kennedy-Coor flatly assert that "The NIH difficulty in reconciling an inadequate Administration budget with the real needs of research is understandable, but proposing cuts in either direct or indirect costs of research will damage the enterprise."

Noting that some who attended the July meeting had previously given tentative endorsement to the old ploy of yet another study of indirect costs—this one would be by the President's Science Adviser—the Kennedy-Coor statement backed that proposal. The study, it said, "should address the reasons for the increases in such costs over the past decade, and ways to control and, if possible, reduce them."

But, in the meantime, it craftily suggested, "we urge that the Administration suspend its efforts to obtain budgetary relief either by cutting numbers of grants or by arbitrarily reducing direct or indirect costs—any of which will result in serious damage to the nation's biomedical research enterprise."

In the political background to this exercise in befuddlement is the fact that administrators of the big research universities are confident of their political

The Selling of Indirect Costs

The following excerpt is from the formally issued statement that's said to reflect last July's deliberations on NIH funding policies among representatives of 18 universities and academic organizations:

We agreed that an important source of tension between researchers and university administrators over the indirect cost issue is the complexity of the rules and the cost-accounting measures employed, and the general failure to date to gain faculty sympathy with them. Faculty members complain that their administrations are often confusing or opaque in their explanations; and conversely, administrators sometimes feel that their faculty constituents are refractory to explanation. However one might apportion the blame, we think, the continued discord simply cannot be accepted. The University presidents present, accordingly, agreed to urge their colleagues to renew efforts to present their faculties with clear explanations of what indirect costs are and how their institutions handle them. We also agreed on the desirability of involving faculty meaningfully in the development of institutional policies respecting indirect costs, and of exchanging among institutions particularly useful explanations, documents, or accounting or budgeting procedures. For their part, the society representatives agreed to encourage among their members a receptiveness toward this proposed dialogue.

prowess on Capitol Hill. Last year, when the Reagan Administration sought to reduce indirect cost payments by 10 percent, they put through an appropriations amendment blocking that cut. The House appropriations bill for NIH is yet to emerge from committee—due out soon, following subcommittee action prior to the August recess—but the word is that the members have once again chosen to heed the alarms from academe.

Then, too, the university administrators have the support of the influential Henry Waxman, the California Democrat who chairs the House Subcommittee on Health and Environment. Waxman is regarded by the NIH mandarins as an ever-present menace because of his longstanding, but so far unsuccessful, attempts to give his subcommittee more authority over NIH operations. But his perennial bill for achieving that purpose—soon to be voted on in the House—would leave indirect costs as they now are.

One puzzlement in the latest round of the indirect-

(Continued on page 7)

In Print

NIH Data Book 1983, annual pocket-size collection of 33 tables, plus other items, covering appropriations, grants, indirect costs, etc., from 1972 through 1982; available without charge—supply limited, however—from Office of Program Planning and Evaluation, Building 31, Room 4C 35, National Institutes of Health, Bethesda, Md. 20205.

Technology in Society, Vol. 4, No. 4, first of a series of issues containing papers on the theme of "Biotechnology—Impact on Societal Institutions," edited by Joseph G. Perpich, Vice President, Governmental Affairs, Genex Corp.; contributors are Donald Kennedy, President, Stanford University; Richard M. Krause, Director, National Institute of Allergy and Infectious Diseases, and J. Leslie Glick, President, Genex; information about individual copies and subscriptions available from Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, New York 10523.

Science and Law: An Essential Alliance, collection of papers worked up by the National Conference of Lawyers and Scientists, founded in 1974 by the American Association for Advancement of Science and the American Bar Association; edited by William A. Thomas, who is an attorney and former research ecologist; contributors include academics, environmental specialists, industrial researchers, etc. (168 pages, \$16.50, Westview Press, 5500 Central Ave., Boulder, Col. 80301).

Wood Use: US Competitiveness and Technology, report by the Congressional Office of Technology Assessment, concludes that the US Forest Service is heavy on "growing, protecting, and inventorying trees," while neglecting harvesting technology; also that "The forest products industry appears to lag behind other basic industries in research, expenditures." (202 pages, Stock No. 052-003-00921-8, \$6, Superintendent of Documents, USGPO, Washington, DC 20402.)

OVERHEAD (Continued from page 6)

cost issue is the presence of the Federation of American Societies for Experimental Biology among the organizations listed as having attended the July meeting on which the Kennedy-Coor statement is based. The listing—FASEB Executive Director Robert Krauss was the attendee—presumably signifies endorsement of the statement. If so, this would represent the first official statement on the issue by FASEB, which consists of 6 research societies, with a total membership of 26,000. In biomedical politics, FASEB has been considered the voice of the investigator who finds his grant whittled down by rising indirect costs. SGR hears that FASEB's association with the statement has spawned some discontent in the organization.

Peace Returns to "Science"

Calm has been restored to the news department at *Science* magazine following an astonishing blowup last month in which editor Philip Abelson summarily ordered the firing of two editors and a reporter. All three are still there, along with a good deal of hushed conversation about the episode.

The precipitating event was a routine article, about to be published, concerning an out-of-court settlement of a law suit against Linus Pauling, the double Nobel laureate who heads the Linus Pauling Institute for Science and Medicine, by a former research associate.

Abelson came across a proof of the article not long before Pauling was to receive the highest award of the American Chemical Society, the Priestley Medal, at its August 28-September 2 meeting in Washington. Complaining that the article was too long, and leaving the impression that he considered it out of harmony with the good news about Pauling, Abelson directed that the article not be published, though the subject matter is within the normal boundaries of *Science* coverage.

His orders were, in fact, being carried out. But Abelson concluded otherwise when he came across an early page proof that still contained the article—whereupon he announced the firings.

Peace and staff stability were restored when William D. Carey, Executive Officer of the parent American Association for the Advancement of Science, who also is publisher, stepped in.

Abelson, 70, editor of the journal since 1962, several months ago announced plans to retire by January 1985. A search committee has been organized to find a successor.

Subscription Form

**Science & Government Report
Northwest Station
Box 6226A
Washington, D.C. 20015**

☐ Renew my subscription; ☐ Check enclosed

☐ Enter my subscription; ☐ Please bill

Institutional subscribers: one year, \$132.50 ☐; two years, \$235.00 ☐

(Overseas airmail, \$25.00 per year additional.)

Name

Address

Zip

US Holds Lead in Civilian R&D, Study Says

If stale statistics remain valid, there's no basis for the often-made contention that the US lags behind its major industrial competitors in total support of non-military research and development.

That's the conclusion that can be drawn from a study by the Science Policy Research Division of the Congressional Research Service (CRS), which is part of the Library of Congress. The main difficulty is that, with a few exceptions, the study draws on numbers no more recent than 1978. The excuse for such antiquity is that those are the most recent numbers available from the Organization for Economic Cooperation and Development and the National Science Foundation, neither of which is notable for serving up timely figures.

The study, "US and Other National Civilian R&D Trends," merits notice, however, because the CRS is well regarded in Congress, and so is the Joint Economic Committee, for which the study was prepared.

What the study shows is that Japan, West Germany, France, and Britain used to, and still do, lag behind the US in support of civilian research, but the gap is narrowing. Thus, in 1964, the combined civilian R&D funding of the four nations amounted to 47.5 percent of the US total. But by 1975, mainly because of increases by Japan and Germany, the four nations had increased their combined R&D spending to 106 percent of US spending; by 1978, the total had risen to 124 percent.

The figures look shocking and are therefore certain to show up in funding appeals by the mandarins of American science. But the fact is that no one of the four comes close to the US in spending on civilian research. Japan, the leader, spends about half of

what the US spends, which is not unreasonable, given that its population is about half of ours.

As for the four collectively outspending the US, it is to be noted that each of them probably has at least as much R&D collaboration with the US as with each other. What's certain is that they are not going to extremes in pooling their R&D resources to compete with the US.

On the often-cited but dubiously relevant matter of percent of gross national product devoted to civilian R&D, the study found that the US has been slipping relative to the other countries. In 1970, we led them all, with 1.97 percent, compared to Japan, 1.84; Germany, 1.87; France, 1.54, and Britain, 1.76 (for 1969).

But by 1979, the American percentage of GNP going into civilian R&D had dropped to 1.71 percent, while Japan's had risen to 2.09 and Germany's to 2.26. France was at 1.42 in that year, while Britain had declined to 1.57 by 1978.

Do the same patterns hold to this day? It is difficult to know, given the huge boosts in defense spending that have been achieved by the Reagan Administration. At the same time, however, R&D spending by American industry has increased sharply, while growth in the gross national product has, until recently, been sluggish. With other countries also experiencing turbulence in their economies and financing of R&D, up-to-date figures are obviously out of the question. But it is not unreasonable to expect a bit more timeliness from a research branch of the formidable Library of Congress. For starters, inquiries to the Washington-based science attaches of the aforementioned countries could easily produce numbers fresher than those from 1978.

Science & Government Report
Northwest Station
Box 6226A
Washington, D.C. 20015

Second class postage paid
at Washington, D.C.

Xerox-University Microfilms
300 N. Zeeb Rd
Ann Arbor MI 48106

9999

